

Descriptions of the species of *Trox* and *Omorgus* inhabiting the United States.

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Trox Fabr.

A. *Thorax inæqualis præcipue bicostatus.*

1. *T. Sonora*, oblongus niger, thorace latitudine fere triplo brevior, irregulariter grosse punctato, inæquali, disco elevato bicostato, lateribus late rotundatis, elytris costis quatuor suturaque elevatis haud interruptis, setis sordidis brevissimis tessellatis, interstitiis muricato-punctatis cicatricosis, tuberculis parvis uniseriatis notatis. Long. .38.

One specimen, Tucson, Sonora. This species is very similar to the next, but the sides of the thorax are less rounded, being almost straight near the base; the furrows of the elytra are distinctly tuberculate, and the general form of the body is narrower. Nevertheless, a larger series of specimens may prove these differences to be of no value.

2. *T. alternans*, oblongus, niger, thorace irregulariter grosse punctato, latitudine fere triplo brevior, lateribus modice rotundatis, elytris costis quatuor suturaque elevatis haud interruptis, setis sordidis brevissimis tessellatis, interstitiis muricato-punctatis, transversim cicatricosis, tribus internis simplicibus, quarto costula intermedia notato. Long. .37.

Kansas Territory and New Mexico. The head is scarcely tuberculate, densely punctured with the clypeus rounded, not margined; thorax two and a half times wider than long, moderately rounded on the sides, ciliate with yellow bristles, irregularly and coarsely punctured, unequal, with the middle of the disc strongly elevated and bicostate, the intermediate furrow being divided by a slight transverse elevation about the middle. Elytra oval, truncate at base, finely serrate on the sides, with four elevated uninterrupted costæ, which are tessellated with short yellowish bristles, and alternate shining spots; suture elevated; the three inner spaces are broadly concave, with irregular transverse elevations, and sparingly marked with small muricate punctures, arranged nearly in four series, but not so closely placed as to render the arrangement obvious; in some directions the transverse elevations seem to indicate a row of tubercles, but this is also very indistinct; the fourth space is marked with an indistinct interrupted costa, forming a row of tubercles; at the tip of the elytra all these irregularities fade away, and the ordinary arrangement of striæ may be traced. The capillary striæ seen in many species are here entirely wanting, except in the subsutural space where they may be faintly discovered. The anterior femora, as in most species, are strongly dilated and crenulate inferiorly; the anterior tibiæ of one specimen from Kansas are without teeth; in the New Mexican specimen, besides the ordinary square terminal tooth, there are two small ones at the middle, and some fine serrations towards the base.

A specimen from Kansas, of smaller size (.35) has the costæ of the elytra less elevated and the interstices less corrugated, so as to present, besides the very small muricated punctures, two rows of large subquadrate punctures, nearly as in *T. porcatus*, from which, however, it is abundantly distinguished by the differences in the form and sculpture of the thorax, and by the absence of the capillary striæ of the elytra.

3. *T. sordidus*, niger, thorace flavo-ciliato, brevissime setoso, inæquali irregulariter grosse punctato, lateribus late rotundatis, medio modice elevato bicostato, elytris costis quatuor interruptis, suturaque elevatis brevissime setosis, postice indistinctis, interstitiis inæqualibus bistriatis, tuberculisque parvis uniseriatis. Long. .3.

Georgia, New York, Kansas. Smaller than the preceding, with the sides of the thorax less rounded and the disc less elevated. The second and third costæ of the elytra are more interrupted than the first and fourth, and all are indistinct posteriorly; when the inequalities of the elytra are less marked, the

capillary striæ appear strongly punctured with an intermediate row of small distant tubercles. The anterior tibiæ are furnished with a broad bidentate terminal process, and one well-marked tooth at the middle; they are finely serrate towards the base. The anterior femora are very strongly dilated and crenate on the inferior margin. The head is somewhat more unequal than in *T. alternans*.

4. *T. porcatu*s, niger, sordidus, thorace longius flavo-ciliato, sordide breviter setoso, latitudine duplo brevior, lateribus antice rotundatis, inequaliter punctato, medio bicostato, sutura costisque interruptis elevatis flavo-setosis, costis alternis minoribus fere indistinctis, interstitiis punctis magnis quadratis seriatis striâ capillari coniunctis. Long. .4—46.

Say, Journ. Acad. Nat. Sc. 5, 193.

Middle and Southern States. The sides of the thorax are straight for three fourths of their length, and are then rounded to the apex; the punctures of the elytra are connected by striæ, and the inequalities diminish towards the tip. The anterior tibiæ are serrate towards the base, with one sharp tooth at the apex; the femora are very much dilated, and hardly crenulate on the inferior margin. In the form of the thorax this species is allied to *T. capillaris*, but in that species the capillary striæ of the elytra are much stronger, the costæ are less distinct, forming merely rows of distant penicellated elevations, and the rows of punctures are not very obvious.

5. *T. tuberculatus*, oblongus, niger, thorace latitudine plus duplo brevior, lateribus late rotundatis, inæquali, partibus elevatis breviter fulvo-setosis, dorso elevato, bicostato, elytris tuberculis valde elevatis oblongis brevissime setosis, quadriseriatim positis, interstitiis parce quadriseriatim muricato-punctatis, suturaque tuberculis parvis uniseriatim notatis. Long. .3—37.

Herbst, Käfer, 3, 24; tab. 21, fig. 6: Oliv. Ins. 4, p. 9; tab. 2, fig. 8.

Scarabæus tuberculatus, De Geer, 4, 317; tab. 19, fig. 2.

Trox serrulatus, Beauv. Ins. 176, tab. 46, fig. 9.

Trox canaliculatus, Say, Long's Exped. St. Peter's 2, 278.

Middle and Southern States, not rare. Besides the apical emarginate process, the anterior tibiæ have only one prominent tooth at the middle; above this are some fine crenulations. This species is not much like *T. sabulosus* of Europe, with which Olivier compares it, but is the only one known to me that will agree with the descriptions or figures.

6. *T. erinaceus*, minus elongatus, subovatus, niger, thorace latitudine fere triplo brevior, lateribus late rotundatis, setis nigris penicellato, dorso bicostato, elytris striis distinctis, interstitiis parce muricato-punctatis interstitiis 3, 5, 7, 9 tuberculis valde elevatis, oblongis, acutis nigro-penicellatis, serie suturali paulo minore ornatis. Long. .25.

South Carolina, Mr. Zimmermann. The intervals between the series of large elevations are marked with a scarcely distinct series of tubercles, hardly larger than the scattered elevated punctures. The denticulations of the anterior tibiæ are not distinct, but one near the middle is a little more prominent.

7. *T. terrestris*, breviusculus, ovatus, niger (præcipue sordidus), thorace latitudine duplo brevior, lateribus vix late rotundatis, subreticulatim inæquali, elytris punctis quadratis seriatis, interstitiis alternis elevatis subinterruptis, brevissime sordide setosis, alternis (alteris) parce muricato-punctatis. Long. .21—24.

Say, Journ. Acad. Nat. Sc. 5, 192.

Middle and Southern States, abundant. The inequalities of the thorax are less developed than in those above described, and are connected together so as to give a reticulated appearance; five of the cells are adjacent to the base, and three fill up the apex. The anterior tibiæ, besides the universally found square apical prominence, have only one moderate tooth below the middle.

8. *T. capillaris*, longiusculus, ovatus, sordide niger, thorace parce setoso, latitudine vix sesquibrevior, lateribus fere rectis, inæquali, dorso bicos-

tato, elytris striis tenuibus elevatis notatis, et punctis parvis notatis, interstitiis tuberculis vix elevatis breviter nigro-fasciculatis ornatis, seriebus alternis maioribus; serie suturali autem secundæ æquali. Long. .36—40.

Say, Journ. Acad., Nat. Sc., 3, 238: Harris, Trans. Hartford Soc. Nat. Hist. 77.

Middle, Southern and Western States: the anterior tibiæ have a prominent tooth below the middle and a smaller one above the middle. When the elytra are very carefully cleaned the elevated lines towards the suture are seen to be double, while beyond the third series of the larger bunches of bristles, they vanish entirely, and rows of punctures alone are seen. The inequalities of the thorax consist of the two entire dorsal costæ and a smaller one each side, extending from the base beyond the middle.

B. *Thorax haud inæqualis.*

9. *T. variolatus*, elongatus, niger, thorace latitudine duplo brevior, lateribus antice rotundatis, confertim punctato breviter setoso, late canaliculato et marginato, elytris striis tenuibus elevatis punctatis, interstitiis fulvo-penicellatis, alternatim paulo elevatis, seriebus alternis maioribus. Long. .25.

Melsheimer, Proc. Acad. 2, 137.

Middle States. The sutural series of bunches of bristles is larger than the one adjacent. The anterior tibiæ have two or three very small teeth on the outer margin. Closely resembles the next, but readily distinguished by the elevation of the alternate intervals, and by the larger bunches of hair on the elevated spaces.

10. *T. æqualis*, elongatus, niger, thorace latitudine duplo brevior, lateribus antice rotundatis late deplanatis, confertim punctato, breviter fulvo setoso, dorso subcanaliculato, elytris striis tenuibus elevatis punctatis, interstitiis æqualiter uniseriatim fulvo penicellatis. Long. .25.

Say, new species of insects of Louisiana, (1832).

Middle and Southern States. The anterior tibiæ have one small tooth near the apical prominence, which is bidentate.

11. *T. fascifer*, elongatus, niger, thorace latitudine duplo brevior, lateribus late rotundatis, late deplanatis, confertim subtilius punctato, breviter fulvo setoso, dorso vix canaliculato, elytris striis tenuibus elevatis subtilius punctatis, interstitiis æqualiter uniseriatim fulvo penicellatis. Long. .26.

One specimen, San Francisco. Precisely similar in form and appearance to the preceding, but differs in having the striæ of the elytra finely instead of coarsely punctured: the outer margin of the anterior tibiæ above the terminal bidentate prominence is marked with three small but distinct teeth.

12. *T. laticollis*, minus elongatus, niger, nitidus, thorace latitudine plus duplo brevior, lateribus magis rotundatis, late explanatis, angulis posticis valde obtusis, parce setoso, grossius punctato, late canaliculato, elytris striis subtilius punctatis, interstitiis planis fasciculis minutis nigris uniseriatim ornatis. Long. .24.

One specimen, New York. Broader than the two preceding, with the sides of the thorax considerably rounded, so that the posterior angles become obtuse: the fascicles of the elytra are composed of only three or four short black bristles, which arise from a somewhat muricate puncture. The anterior tibiæ have three small equidistant teeth, exclusive of the terminal prominence.

13. *T. striatus*, oblongus, convexus, nigro-piceus, nitidus, thorace latitudine plus duplo brevior, lateribus angustius marginatis late rotundatis, sat dense punctato subcanaliculato, elytris glabris, striis profunde crenatis impressis, interstitiis subconvexis, parce punctulatis. Long. .25.

Melsheimer, Proc. Acad. 2, 137.

Pennsylvania, Rev. D. Zeigler; very rare. Besides the strongly bidentate apical tooth, the anterior tibiæ are armed with three small teeth: the posterior angles of the teeth are nearly rectangular.

14. *T. a t r o x*, elongatus, ovatus, niger, thorace latitudine duplo brevior, late marginato, confertim punctato, breviter setoso, subcanaliculato, lateribus late rotundatis, elytris striis duplicatis crenatis, interstitiis uniseriatim flavo-setosis. Long. .33.

One specimen, found near Long's Peak. The setæ of the elytra arise from small mucronated punctures. The anterior tibiæ are more dilated than in the other species; the terminal tooth is very much rounded, and above it are two or three sinuosities indicating other teeth. The form is that of *T. variolatus*, but larger.

OMORGUS ER.

This genus, described at length in Wiegmann's *Archiv.*, (13, 111) and referred to in Erichson's *Ins. Deutsch.* (925), contains the largest species of our native *Trogidæ*. It differs from *Trox* by the corneous prominent ligula, by the first joint of the labial palpi being longer than the second, and finally by the terminal hook of the maxillæ being cleft, and the second hook being single. (In *Trox* the terminal hook is usually trifid.) As these characters are difficult, certain differences in appearance may be made use of to separate the two genera. Thus in *Trox* the sides of the thorax are strongly ciliated, and broadly regularly rounded, while in *Omorgus* the sides are hardly ciliate, and are frequently irregular, and sometimes toothed: the eyes of our native species of *Trox* are reticulated, and the posterior tibiæ toothed; while in *Omorgus* the eyes are smooth, and the posterior tibiæ in our native species without teeth. Of these habitual characters, reliance can be placed absolutely upon none but the structure of the sides of the thorax, as according to Erichson, species of *Trox* occur in which the eyes are smooth and the posterior tibiæ toothless. Our species may be divided thus:

A. Corpus apterum; thorace bullis nitidis ornato.

1. *O. texanus*, apterus niger, convexus, thorace cataphracto valde inæquali, lateribus rotundatis ante basin subincisis, elytris seriatim grosse punctatis nitidis irregulariter cœlatis. Long. .8.

Eagle Pass, Texas, collected by Mr. Schott, under Major Emory, of the U.S. and Mexican Boundary Commission, and also by Lieut. Haldeman. This species is larger than *O. scutellaris*, and the lines of punctures on the elytra are better marked; but except in the form of the sides of the thorax, there appears to be no special difference; as in that species, the posterior outer angle of the large four-angled bulla each side of the dorsal channel is produced.

2. *O. scutellaris*, apterus niger, thorace cataphracto, valde inæquali, lateribus rotundatis, elytris seriatim minus distincte punctatis, transversim cœlatis, interstitiis subquadratis, subæqualiter parum elevatis. Long. .6—65.

Trox scutellaris Say, *Journ. Acad. Nat. Sc.*, 3, 238.

Kansas Territory near the mountains: New Mexico, Mr. Fendler: abundant.

3. *O. suturalis*, apterus niger, thorace cataphracto, valde inæquali, lateribus rotundatis, elytris minus distincte seriatim punctatis, transversim cœlatis, interstitiis inæqualiter magis elevatis, sutura costata. Long. .63.

Texas Mr. Schott, two specimens. Distinguished from the preceding by the more elevated and irregular shining spaces of the elytra, and by the suture being elevated in the form of a costa.

4. *O. umbonatus*, apterus niger, thorace cataphracto, valde inæquali, lateribus rotundatis, elytris minus distincte seriatim punctatis, interstitiis transversim cœlatis, alternatim magis elevatis. Long. .65.

Texas, Messrs. Schott & Clark. Also allied to *O. scutellaris*, but besides the inequality of the rows of elevations of the elytra, the four-angled bulla each side of the dorsal channel of the thorax has the posterior outer angle not produced, and almost obtuse. The body is also more elongated.

B. *Corpus alatum*; *thorax tuberculis punctatis haud nitidis ornatis*.

5. *O. scabrosus*, sordide niger, opacus, thorace valde inæquali, lateribus rotundatis pone medium incisus, angulis posticis rotundatis, elytris tuberculis magis elevatis cataphractis seriatis ornato, seriebus alternis maioribus, interstitiis punctis muricatis sparsis fere inordinatis. Long. .57—7.

Trox scabrosus Beauv., Ins. d'Afr. et d'Amer. 175, tab. 46, fig. 4.ⁿ

New York, Florida, Texas. This species has entirely the appearance of the next, from which it seems to differ only by its usually much larger size, and by the sides of the thorax (excluding the indentation) being rounded instead of angulated, and by the elevated points between the large series of tubercles of the elytra being much larger, and by some of them forming intermediate series of smaller tubercles. As in the text there is a sutural series of small tubercles.

This large species is abundant, especially near the sea shore.

6. *O. pustulatus*, sordide fuscus, vel niger, opacus, thorace valde inæquali, lateribus medio fere angulatis, pone medium incisus, angulis posticis rotundatis, elytris tuberculis serie quadruplici et ad suturam positus magis elevatis cataphractis, interstitiis parce inordinatim muricato-punctatis. Long. .55—6.

? *Trox tuberculatus*|| Beauv., Ins. 175, tab. 46, fig. 3.

Southern States, not rare. This species agrees very well with Beauvois' figure, but his insect is said in the text to have been found in Hayti. It is remarkable that while he mentions that *Trox tuberculatus* (Olivier) was unknown to him, he should retain for his own very different species the same specific name.

This species is distinguished (apart from the differences in the elytra) from the following as well as the preceding species by the sides of the thorax converging obliquely from the middle to the apex; the effect of this is to produce an indistinct angle near the middle; this character in consequence of the gradual curving of the sides is not seen either in *O. scabrosus* or in *O. asper*.

7. *O. asper*, niger, sordidus, opacus, thorace valde inæquali, lateribus late rotundatis, pone medium subincisus, angulis posticis latius rotundatis, elytris tuberculis magis elevatis cataphractis quadruplici serie ornatis, sutura interstitiisque tuberculis minutis uniseriatim positus, et ordinatim profunde punctatis. Long. .5.

Georgia, South Carolina, Mr. Zimmermann. The elevated punctures scattered irregularly between the rows of tubercles, as seen in the two preceding species, have here disappeared; the intervals are somewhat unequal, and in each are seen two moderately regular rows of large punctures, with an intervening series of small tubercles, which like the larger tubercles are covered with a brown crust. These small tubercles are, however, scarcely more elevated than the places between the punctures forming the rows. The lateral incision of the thorax is much less deep than in the preceding species, and the posterior angles are broader and less prominent.

8. *O. punctatus*, griseus, thorace inæquali, lateribus obliquis late rotundatis, pone medium subincisus, angulis posticis vix rotundatis, canali dorsali antice mediocri, elytris seriatim crenato-punctatis, interstitiis parce subtiliter muricato-punctatis, alternis paulo elevatis nigro-tesselatis. Long. .46—55.

Trox punctatus Germ. Ins. Nov. 113.

Trox alternatus Say, Bost. Journ. Nat. Hist. 1, 179.

Trox crenatus† Beauv., Ins. 176, tab. 46, fig. 1: (nec Oliv., Ent. 4, tab. 1, f. 4.)

Trox denticulatus† Beauv., Ins. 175, tab. 46, fig. 7, 8: (nec Oliv. Ent. 4, tab. 2, fig. 14.)

? *Trox unistriatus* Beauv., Ins. 175, tab. 46, fig. 5.

Our most abundant species, found from New York to Santa Fe and Texas. The tessellated spots of the elytra in well preserved specimens afford an excellent character for distinguishing it: greasy specimens are uniformly black in color, and in such the absence of tubercles on the elytra, and the less deep dorsal channel of the thorax may be taken as distinguishing marks. The punctures of the striæ of the elytra vary somewhat in size; sometimes they are small, deep and well

defined; at other times they are broad and subquadrate, so that the less elevated interstitial spaces appear transversely rugous: the alternate intervals are sometimes very distinctly, and sometimes hardly apparently elevated, yet with a large series of specimens these differences shade imperceptibly together. The inequalities of the thorax are much less conspicuous than in the following species, and the four usual posterior tubercles are rather flattened.

The synonym last quoted is not certain, yet as specimens occur in which the sutural space is more distinctly elevated than the others, it would be safer to refer it here, than to retain it as a species, without any distinct character. *Trox crenatus* and *denticulatus* (Oliv.) are described as South American species, and do not appear to resemble those described under the same name by Beauvois.

9. *O. morsus*, *sordidus* (vel *niger*) thorace valde inæquali, lateribus late rotundatis, pone medium paulo incisus, angulis posticis late rotundatis, dorso antice valde canaliculato, elytris seriatim crenato-punctatis, interstitiis alternatim modice elevatis, interruptis (subtesselatis) tuberculis nitidis obtusis, alternis tuberculis minoribus notatis. Long. .5—55.

Texas and Kansas. Very similar to the next species, and differs principally in having the sides of the thorax distinctly incised a little behind the middle. In well preserved specimens, the elytra would probably be tessellated, as in the preceding species: between the large tubercles are seen rough places, as if for the insertion of short bristles, precisely as in badly preserved specimens of *O. punctatus*: the smaller series of tubercles are sometimes hardly visible. The inequalities of the thorax are very much elevated, and the four posterior tubercles very distinct, the outer ones as usual being interrupted.

10. *O. integer*, *sordidus* (vel *niger*) thorace valde inæquali, lateribus late rotundatis, haud incisus, angulis posticis rotundatis, disco antice valde canaliculato, elytris seriatim crenato-punctatis, interstitiis interruptis tuberculatis, alternatim magis elevatis. Long. .5—53.

Texas and Northern Sonora, near Tucson. As in some specimens the spaces between the black tubercles are covered with a brown crust, the elytra are probably tessellate in well preserved individuals. Besides the absence of the lateral incision of the thorax, this species differs from the preceding by the tubercles of the elytra being more closely arranged, and by the less elevated intervals being more unequal. In one specimen, however, the intermediate rows of small tubercles are almost obsolete.

11. *O. tessellatus*, *convexus*, *sordide cinereus*, thorace inæquali, lateribus magis rotundatis haud incisus, angulis posticis paulo rotundatis, disco antice valde canaliculato, elytris muricato-punctatis, crenato-striatis, interstitiis paulo convexis spatiis quadratis nigris lævigatis, parum elevatis tessellatis. Long. .61—65.

This fine species is contained in the beautiful series of Coleoptera brought by Dr. Thos. H. Webb from the boundary between Mexico and the United States, and is labelled "San Diego trip": for the purpose of completing the present genus, the description is placed here, though it properly belongs to a paper to be found below.

The form of the thorax is similar to that of the preceding, but the elevations, although very sudden, are smaller, and the anterior one is distinctly divided into two longitudinal ridges, the outer one, of course, being shorter; the elevations of the elytra are nearly equal, except the sutural row, which is smaller. The anterior tibiæ are armed with a distinct tooth about the middle.

Some corrections in the Nomenclature of Coleoptera found in the United States.

BY JOHN L. LE CONTE, M. D.

During the course of years through which our Coleoptera have gradually been made known, too often under great disadvantages arising from the limited libraries, and still more limited collections to be found in this country, many species have been referred to wrong genera, and thus became placed in such relation to